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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/766,318      | 01/19/2001  | Shinichi Tamura      | 330-231             | 6090             |

7590

11/04/2002

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EXAMINER

FERGUSON, LAWRENCE D

ART UNIT

PAPER NUMBER

1774

DATE MAILED: 11/04/2002

9

Please find below and/or attached an Office communication concerning this application or proceeding.

AS9

|                              |                        |  |                     |  |
|------------------------------|------------------------|--|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> |  | <b>Applicant(s)</b> |  |
|                              | 09/766,318             |  | TAMURA, SHINICHI    |  |
|                              | <b>Examiner</b>        |  | <b>Art Unit</b>     |  |
|                              | Lawrence D Ferguson    |  | 1774                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 August 2002.
- 2a) ☒ This action is FINAL.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                             | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

**DETAILED ACTION**

***Response to Amendment***

1. This action is in response to the amendment mailed August 22, 2002.

Claim 1 was amended rendering claims 1-5 pending.

***Claim Rejections – 35 USC § 103(a)***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eates et al. (U.S. 5,789,329).

4. Eates discloses boron-free glass fibers having compositions consisting of SiO<sub>2</sub>, CaO, Al<sub>2</sub>O<sub>3</sub> and MgO where the glass contains no fluorine (abstract). Eates discloses the glass fiber compositions have values for delta T of a temperature and liquidus temperature is at least about 52 C (abstract). The reference discloses the components of the glass fibers along with its surface layer are composed of SiO<sub>2</sub> at 59 to 62.0%, CaO at 20 to 24%, Al<sub>2</sub>O<sub>3</sub> at 12 to 15 %, MgO at 1 to 4% Column 3, lines 2-13). Eates does not disclose the thickness of the silicon dioxide content or the weight percent. Thickness and weight percentage are optimizable features. It would have been obvious to one of ordinary skill in the art to optimize the components because discovering

the optimum or workable range is of routine skill in the art and the amount of SiO<sub>2</sub> used would be an optimizable amount.

***Claim Rejections – 35 USC § 103(a)***

5. Claims 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eates et al. (U.S. 5,789,329) in view of JP-A-5-147975.
6. Eates is relied upon for claims 1-3. Eates does not disclose treating the surface of glass fiber in an aqueous solution of mineral acid. According to the prior art of the invention JP '975 teaches a heat resistant glass fiber obtained by immersing a glass fiber containing SiO<sub>2</sub>, CaO, Al<sub>2</sub>O<sub>3</sub> and MgO, in the mineral acid, hydrochloric acid at a temperature of 40 to 70 C where the surface layer of the glass fiber is a silicic glass. Eates and JP '975 are analogous art because they are from the same field of glass fibers. It would have been obvious to treat the glass fibers of Eates with the hydrochloric acid because JP '975 teaches that the HCl increases the heat resistance of the glass fiber material.

***Response to Arguments***

7. The rejection of claims 1-5 under 35 USC 112, second paragraph has been overcome due to Applicant's amendment of claim 1 removing the 'substantially' claim language.

Applicant's remarks to rejection under 35 U.S.C. 103(a) as being unpatentable over Eates et al. (U.S. 5,789,329) has been considered but is unpersuasive. Applicant claims a weight percent of 56 to 58.5% of SiO<sub>2</sub>. Applicant argues in the glass fiber of the Eates reference the

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SiO<sub>2</sub> content is too high as it is 59 to 62% by weight. Although the weight percentage of the SiO<sub>2</sub> of Eastes is 59 to 62 wt% by weight, 58.5 wt% is equivalent to 59 wt%. Because 58.5 wt% is equivalent to 59 wt% it is not high but comparable to Applicant's range. Applicant shows Comparative Example 3 and Example 2 but fails to show the references instantly cited cannot exhibit the claimed features in order to overcome the rejection. There would be a reasonable expectation of success given the ranges are so close together.

Applicant's remarks to rejection under 35 U.S.C. 103(a) as being unpatentable over Eates et al. (U.S. 5,789,329) in view of JP-A-5-147975 has been considered but is unpersuasive. Applicant argues since the glass of the Eastes et al reference has a high SiO<sub>2</sub> the glass fiber cannot be improved. Because 58.5 wt% is equivalent to 59 wt% it is not high but comparable to Applicant's range. Because the prior art discloses the same material as the instant invention in the same amount, the glass fiber of the acid treatment disclosed in Japanese publication applied to the glass fiber of Eastes can be improved.

8. **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

**Conclusion**

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lawrence Ferguson whose telephone number is (703) 305-9978. The examiner can normally be reached on Monday through Friday 8:30 AM – 4:30PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly can be reached on (703) 308-0449. Please allow the examiner twenty-four hours to return your call.

The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-2351.



Lawrence D. Ferguson  
Examiner  
Art Unit 1774

CYNTHIA H. KELLY  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700

